

55th IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE  
ACTIVITIES (D5)

## Cybersecurity in space systems, risks and countermeasures (4)

Author: Ms. Lauren Napier  
Northumbria University, United Kingdom

## THE OUTER SPACE REGIME COMPLEX: WHERE CYBERSPACE MEETS OUTER SPACE

**Abstract**

The cyberspace regime is a relatively young regime and from a legal perspective, the regime is a fledgling because it is currently without a foundational holistic treaty of any kind and must rely on general international law. However, with the growing user-base of the Internet plus the wide use of the cyber realm by governments (military and civil), commercial, and other actors, efforts have been made to create non-binding international law and national regulations; creating at least a fragile governance framework. The cyberspace regime considers information and communications technology (ICT), the Internet, as well as cyber security which includes cyber capabilities and threats. The cyberspace regime also has a formidable non-State actor presence within the governance decision-making process thus pushing for a multistakeholder approach to governance from the West. What does this mean for the outer space regime? First, the idea that governance not being a panacea within one sector suggests the need for holistic approaches to try to catch all and find a balance of regulation which can be done through critically analysing the regime complex. Geopolitical tensions between various coalitions of 'like-minded' States over how best to govern outer space is the same in cyberspace. Which showcases the importance of understanding geopolitics in relation to lex specialis regimes and why the law cannot be disconnected from political issues. To keep space safe, secure, and sustainable for current and future generations it is imperative that cyber governance be considered in connection to outer space governance. At the international level, there are some key lessons to be learned from the cyberspace regime, legally and politically speaking, that could be helpful for future deliberations over security matters in outer space more generally and in Low Earth Orbit (LEO) specifically. In 2020, the United Nations published Resolution 75/36 Reducing Space Threats Through Norms, Rules, and Principles of Responsible Behaviours suggesting a normative road be taken to space security much like in the cyberspace regime. Overall, this paper will analyse the importance of a coordinated regime complex and why looking holistically and not siloed at space regime issues, especially in LEO, should be the new norm for cyber and space security on-orbit. From cyber capabilities and potential threats to space systems to legal and political discourse at the international level to national implementation strategies, cybersecurity threats to space missions must be solved through collaborative efforts across the regime complex.